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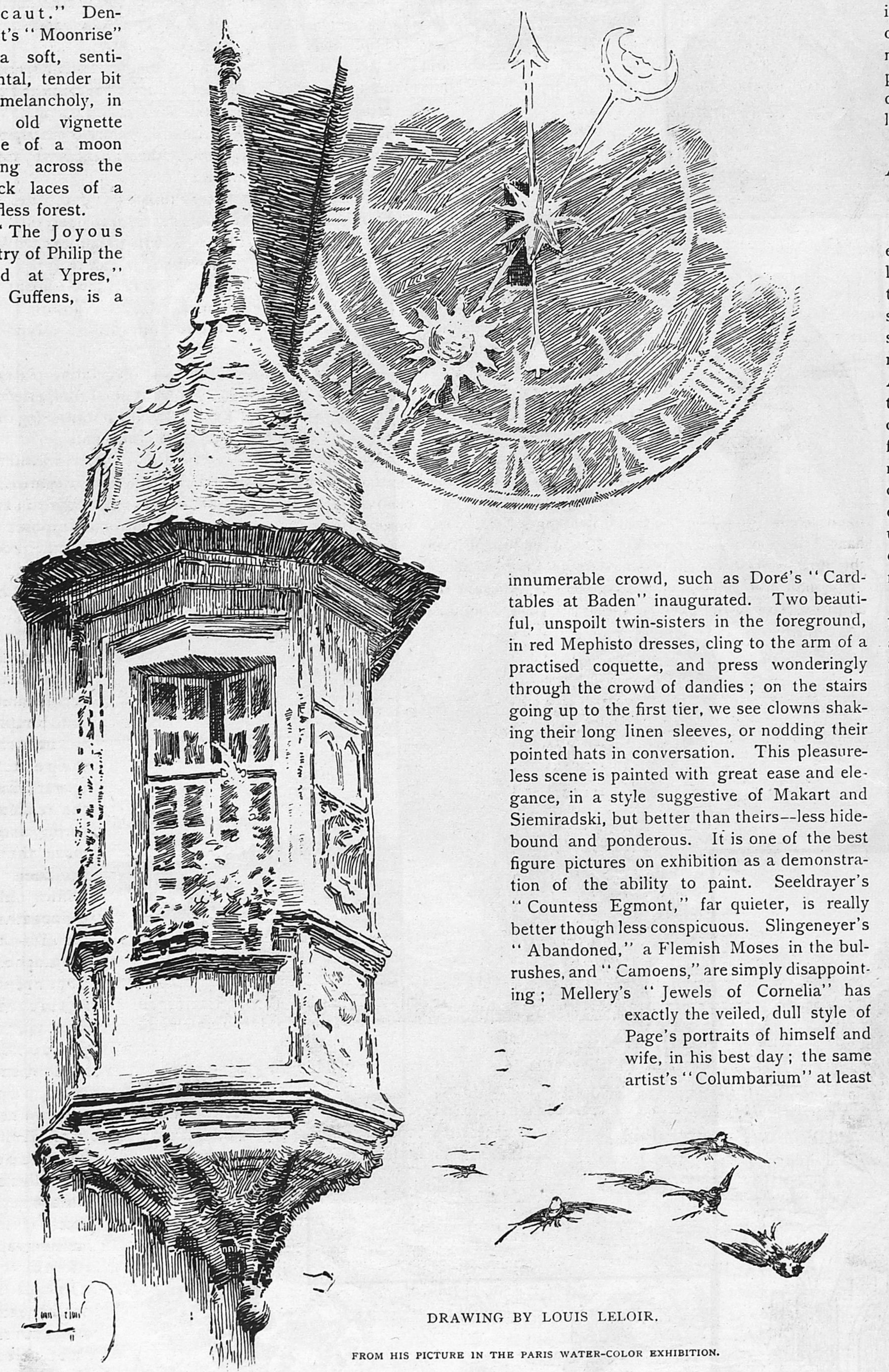
fights. But M. Stallaert's drawing is conventional, his figures have posture but no movement, his muscles are mapped not modelled and his sentiment is insincere. His Gaul is a block of wood, his Moorish "retiarius" is theatrical, his saint is a heavy father of the stage.

Markelbach's "The Guardian," and "Seventeenth Century Damsel," are desperate efforts to imitate Franz Hals, without his equipment of science and ability; the style is thin as water-color, and the brio rather affected them impulsive.



DRAWING BY LOUIS LELOIR.

FROM HIS PICTURE IN THE PARIS WATER-COLOR EXHIBITION.

In landscape, nothing is to be found so fresh as Rossael's "Noon on the Banks of the Escaut." Denduyt's "Moonrise" is a soft, sentimental, tender bit of melancholy, in the old vignette style of a moon lifting across the black laces of a leafless forest.

"The Joyous Entry of Philip the Bold at Ypres," by Guffens, is a colored cartoon of his fresco in the Ypres City Hall; it only makes us regret that Leys was not there to snatch the brush from his hand. He also sends another sketch, that of the "Departure for the Crusades of Baldwin IX.," one of those Flemish counts who gave a line of kings to Jerusalem: the original of this is at Courtrai, in the hôtel de ville.

Guffens is an old favorite at the Pennsylvania Academy, his "Invention of the Marseillaise" being hung there in high honor; other contributors, too, find themselves in the house of their friends. The veteran Bossuet sends his landscapes to join the mighty canvas of his prime, long owned by the Academy, and Wittkamp contributes a theatrical scene to countenance his immense "Deliverance of Leyden," in the permanent part of the exhibition.

I have not yet spoken of the most artistic picture, perhaps, in the display, though it is repulsive and tiresome in subject. This is the "Mask Ball in the Royal Theatre at Brussels," by Charles Hermans. The picture is one sea of madder-lake, heightened with vermilion in the hangings of the ball-room. It is a tangled, innumerable crowd, such as Doré's "Card-tables at Baden" inaugurated. Two beautiful, unspoilt twin-sisters in the foreground, in red Mephisto dresses, cling to the arm of a practised coquette, and press wonderingly through the crowd of dandies; on the stairs going up to the first tier, we see clowns shaking their long linen sleeves, or nodding their pointed hats in conversation. This pleasureless scene is painted with great ease and elegance, in a style suggestive of Makart and Siemiradski, but better than theirs—less hidebound and ponderous. It is one of the best figure pictures on exhibition as a demonstration of the ability to paint. Seeldrayer's "Countess Egmont," far quieter, is really better though less conspicuous. Slingeneyer's "Abandoned," a Flemish Moses in the bulrushes, and "Camoens," are simply disappointing; Mellery's "Jewels of Cornelia" has exactly the veiled, dull style of Page's portraits of himself and wife, in his best day; the same artist's "Columbarium" at least shows the exact stained aspect of an antique marble bust in a damp Roman excavation. Hubert, the splendid designer of horses, shows three pictures. They are rather disappointing, after a sight of his spirited animal-sketches in the "Gazette des Beaux-Arts."

Consul-General Edouard Sêve de Bar originally intended much greater things. The blank disgrace of opening a Belgian exhibition without an Alfred Stevens was not his only mortification. It was his plan to introduce a series of lectures by Consul Sajous, explaining the history of Belgian art and literature—at least I suppose there is a Belgian literature, and that Consul Sajous would have discovered it for us. It was also intended to have the usual Thursday concerts at the Academy consecrated to Belgian music only, in which case we should have heard national compositions such as Director Fetis has represented in his historical concerts at Brussels, with choice morsels from Peter Benoit's cantata of Rubens, and Gévert's cantata of Van Artevelde, together with selections from Belgian composers like Hanssens, Jouret, Miry, Samuel, Radoux, and Lassen. But lectures and concerts are abandoned for the present, owing to the difficulty about bands and English-speaking orators. Another season, it is to be hoped that the exhibition will be repeated, on that scale of severe grandeur which a national commission should be able to command—without any panel-paintings of little stuffed birds, and with the signatures of those artists who have been heard of in the world at large.

EDWARD STRAHAN.

FIRST STEPS IN AMATEUR PHOTOGRAPHY.

CONCLUSION.

THE development of an exposed dry plate is a process which cannot fail to interest deeply the most careless person. The fact that the plate appears exactly the same as before exposure, that the finest optical instrument fails in detecting the slightest change in its surface, certainly bids us pause and ask what is this marvellous change, so suddenly and silently wrought? As the first faint outlines appear under the influence of the developer, wonder grows into amazement at the change going on under one's very eyes. Outlines of familiar objects come out, as first the hull, then the masts, then the rigging and the cords of a great vessel come to us from out the dimness of a fog. The process can be checked instantly, or allowed to proceed until details which were imperceptible to the naked eye claim their full share of attention in the finished negative.

If there were no other compensations in photography than the development of an exposed plate, it would be amply sufficient to repay all the labor, care, and taste required to produce it.

The developing process is as follows: Lay the exposed plate in the copper developing pan, sensitized surface up. Fill to the lowest mark of a graduated glass with a solution of oxalate of potash (made by dissolving two ounces of oxalate of potash in a pint of water), then very carefully add a solution of protosulphate of iron (made by dissolving four ounces in a pint of water), until the next or highest mark is reached. The iron must always be added to the oxalate—not vice versa.

If a sandy precipitate is thrown down, or a stain made upon the glass, it is evidence of too much iron, on which throw away the solutions and prepare again. Adding more oxalate will not remedy the defect.

Now apply the mixture to the plate, taking care to cover it at one sweep; if air-bubbles appear, they should be carefully and instantly wiped away with a small camel's-hair brush, which should always be in hand ready for the purpose.

Rock the pan gently to keep the solutions moving in waves across the plate, and prevent the lodgment of air bubbles.

The image should appear upon a properly exposed plate in from ten to twenty seconds, and the development should be continued until all but the deepest shadows are well darkened.

By "shadows" is meant that portion of the plate which retains the yellow tint the longest.

As soon as the development is complete, the plate should be thoroughly washed in clean water, and held in a bath of hyposulphite of soda. Five ounces to a pint of water is about the right strength for this fixing solution. Take enough of it to fill a saucer or earthen dish (to be used for that purpose only), and hold the plate in it until the opaque yellowness seen from the back of the plate disappears, when it should be immediately washed thoroughly in clean water.

The developing and fixing solutions are to be kept separate, and will retain their properties indefinitely, but if with age the oxalate solution shows numerous white flakes, or the iron solution a reddish substance floating within, filter by passing through a wad of cotton, pressed into the bottom of a common tin funnel, taking great care to change the cotton and wash carefully after each operation.

DRAWING BY LOUIS LELOIR.

FRAGMENT OF A FAN IN THE PARIS WATER-COLOR EXHIBITION.

The plate can now be exposed to white light—it is in a semi-permanent condition ; but to be quite sure that all traces of hypo are removed, it is advisable to wash again very thoroughly by holding the negative under a gentle stream of running water.

After washing, hang the negative by its edges between two tacks driven into a board or wall at a distance of say two inches apart. This position leaves the lower corner of the negative in contact with the wall, and is favorable for drainage—heat must not be used.

You have now a negative ; and, if thoroughly dry, proofs may be taken from it if desired—but great care must be taken before it is varnished to avoid scratching the film.

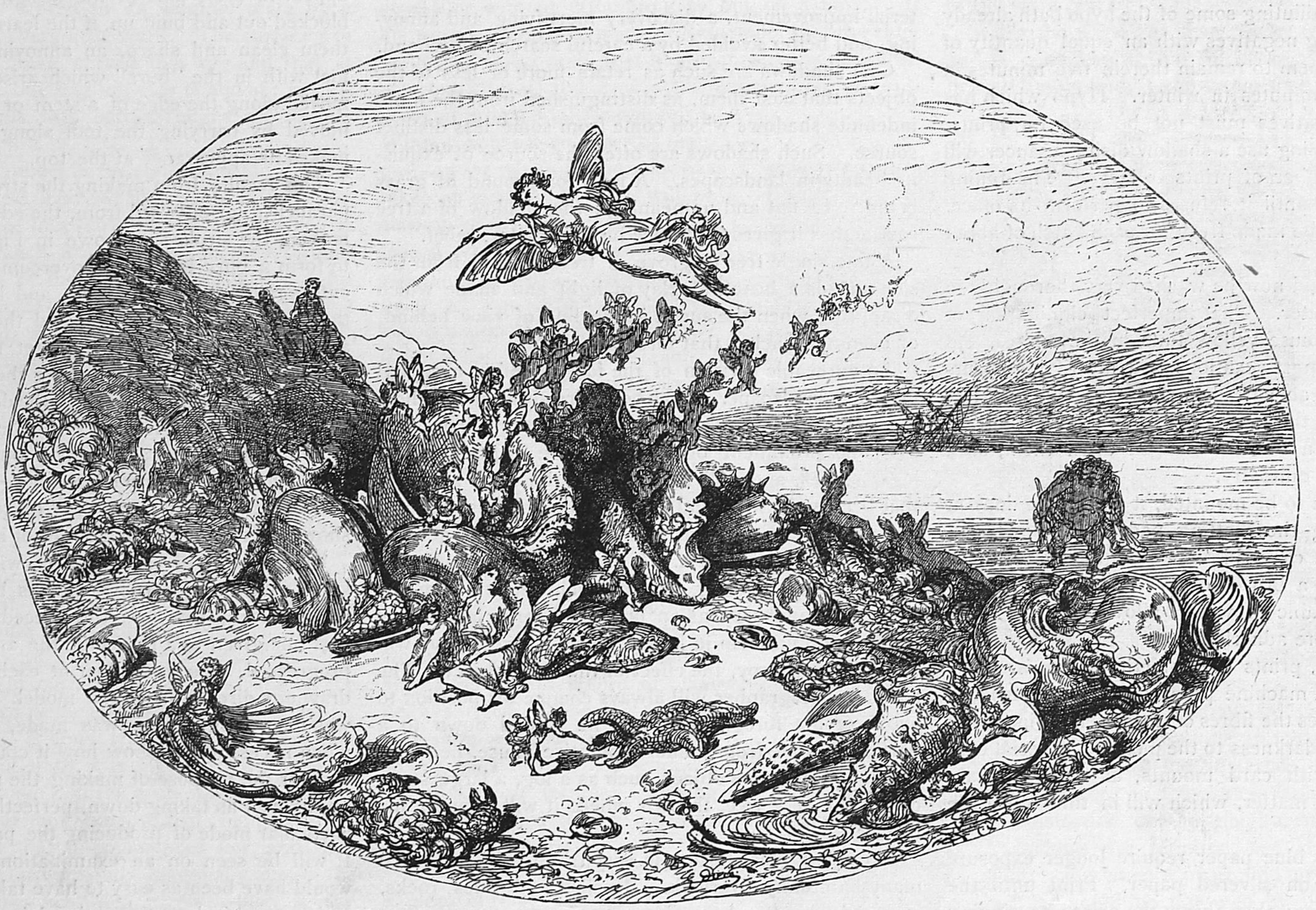
Occasionally in warm weather, a spongy, hazy, uncertain outline appears, to the utter ruin of fine definition. This is known as "frilling," and can be prevented by inserting the plate for five minutes in a saturated solution of common alum in water, immediately after development. Dry plates should not be developed in a temperature exceeding 80 degrees. Be sure, however, that it *is* "frilling." Refer again to your notes, and see whether the plate was exposed when the wind kept all the leaves in a flutter ; you must observe and carefully note all conditions, to be successful in photography.

Not the least valuable or remarkable property of a dry plate is its capacity of retaining the latent image between the time of exposure and development. Tourists need never develop their plates en route, provided they have first acquired skill in exposure.

When a negative, from over-exposure or under-development, is weak, flat, or lacking in vigor, it may sometimes be saved by intensifying, in which case proceed as follows :

Make a solution of a teaspoonful of pyrogallic acid and a pinch of citric acid in about eight ounces of water. Then place the plate in the solution, taking care that the surface is entirely covered as quickly as possible. As soon as the film has attained a slightly yellow color, take the plate out for examination, and if the film appears to be entirely changed from the olive to the yellow color, wash the plate very thoroughly, and place it on the tacks to dry. When thoroughly dry, make a proof, print from it, and compare with a photographic view, and if sufficient intensity is not obtained, repeat the operation. The intensifying solution which has been used should be saved in a bottle for that purpose, and may subsequently be repeatedly used by strengthening. The intensifier must be thoroughly washed from the film, otherwise the image will entirely disappear in time. Heat must not be used in drying.

When you are thoroughly satisfied that a negative possesses the proper qualities for printing from, dust carefully, and take the plate by the lower left hand corner, between the thumb and finger of the left hand ; then pour a teaspoonful of negative varnish on the upper surface of the plate, holding the plate level. This pool of varnish should be caused to flow over the entire surface of the plate by tilting the plate from one side to the other steadily, finally draining it of all surplus varnish, from the lower right hand corner—the surplus to be returned to the varnish bottle. Now dry thoroughly with gentle heat—meanwhile gently rocking the plate, to prevent the varnish drying in lines or ridges.



DRAWING BY GUSTAVE DORÉ.

FROM HIS PICTURE IN THE PARIS WATER-COLOR EXHIBITION.

The plate may be wetted with clean water before the application of the developer if preferred, but should be left in the water at least one minute.

To make clean work, dust off the plates before exposure, and avoid air bubbles on the plate. Always remember that the iron, as was noted above, should be added to the oxalate—not vice versa.

The developing tray should always be used for developing, but never for hypo, alum, or intensification. For the latter solutions a saucer or additional developing pans will do. Hypo and alum may be used until they begin to color, when new solutions should be prepared. Always examine a plate on removal from the hypo, to make sure that the opaque yellowness has thoroughly disappeared.

Avoid keeping the plate out of any of the solutions longer than necessary for a hasty examination, as air bubbles will form upon the film.

If a plate is left too long in the hypo solution undisturbed, it will cause a mottled appearance on the outer surface of the negative, thereby causing its ruin.

A knowledge of the cause of failures is sometimes useful as an aid in avoiding them, hence we append some of the most common :

Transparent spots show dust on the plate. Air bubbles on the plate. Bubbles in developer.

Weak and foggy image. Over-exposure. White light in dark room. Reflections in camera.

Weak and clear shadows. Under-development.

Strong and clear shadows. Under-exposure.

Crystallization on finished negatives. Hypo not washed out.

Most of the failures in the use of gelatine plates are from imperfect light in the dark room, or imperfections in the camera or holder, all of which cause fog more readily on a gelatine plate than a wet plate.

We now consider the printing. It is evident if a surface sensitive to light is placed under a negative, and exposed, that surface will undergo a change in exact proportion as the negative shields from or exposes it to the light. This is the principle involved in the process of printing.

Take the printing frame ; with the thumbs of both hands press equally upon the ends of one spring, and when it is free from the recess in the frame, turn it around until completely unlatched. Repeat the operation with the remaining spring, and remove the entire back.

Now place the negative to be printed from upon the ledge of the frame, film side up, and place one sheet of sensitized paper upon the negative. If it is blue paper, place the blue surface in contact. If it is silvered paper, place the glazed or slightly yellow surface in contact ; always being careful not to touch their surfaces, or scratch the delicate film of the negative. Now place the back in position, and latch first one half, then the other half, always causing equal pressure upon the extreme ends of a spring, to avoid breaking the negative.

Never draw the paper over the negative, but lay it upon it squarely, and hold it in position until the pressure can be transferred to the back you are inserting. Now turn the frame over, and see if the paper covers the negative properly, and if the edges of the negative are clear from the ledges of the frame ; if so, expose to the light. These operations need not be conducted in the dark, as silvered or blue papers are not excessively senstive.

Printing may be effected by the direct rays of the sun, or by diffused light—the nature of the negative determining the better course. Printing in the sun produces softness, while printing by diffused light or in the shade brings out strong contrasts. A strong hard negative will require a bright light, while weak, thin negatives must be printed from in the shade, or a diffused light. If a negative is very thin and transparent, place several folds of white tissue paper over the front of the printing frame, thus diffusing the light thoroughly. A print made in sunshine resists the bleaching action of the subsequent operations better than one made in shade. Therefore always over-print when using diffused light.

Exposure during printing must of course vary greatly ; a very thin, delicate negative requiring but a minute, while a hard vigorous one may require hours.

To examine prints during exposure, hold the frame in the shadow of your body, unlock one end of the back, open it, bend back the paper, and examine carefully. Avoid touching the negative or the sensitized surface of the paper. When the shadows begin to bronze, the highest lights should be clear, or slightly darkened. If, in sun printing, the whites darken before the shadows are bronzed, it is proof of a weak negative, and the recourse is to shade printing. If, in shade printing, shadows are fully printed before detail in the high lights comes, it is proof that sun printing is needed. When the print is complete, it may be placed in a dark box or drawer until a number are ready for toning ; they will not change if kept in the dark.

If the prints require trimming, do it before toning, being careful to trim them squarely and take off only sufficient to prevent ragged edges. The prints should then be thrown into clean water, and allowed to soak from ten to fifteen minutes, after which they are placed in a toning bath, and allowed to remain there until they assume a tint acceptable to the owner.*

They should then be placed in a bath of hyposulphite of soda, made by diluting some of the hypo bath already prepared for fixing negatives with an equal quantity of water, allowing them to remain therein five minutes in summer and ten minutes in winter. Hypo which has been used for negatives must not be used for prints. For fixing and toning use a shallow dish ; a saucer will do unless the number of prints is large. The toning bath may be used until it refuses to perform its office. The hypo should be made fresh for each batch of about 25 prints.

The prints should now be washed very thoroughly in clear running water. The imperfect elimination of hypo will surely cause yellow tints in the whites, and finally fading—a most vexatious and mortifying occurrence, as well as an entirely unnecessary one. After washing, spread the prints between clean blotting paper, and place a book or weight upon them, until they are nearly or quite dry.

If the prints are to be mounted, it should be done at once after leaving the blotting pads, by laying them face down upon a clean blotting pad, and applying to their backs with a brush, clean properly-made flour paste, or gum arabic in water, allowing the print to swell slightly before adhering.

After mounting, prints are sometimes burnished by passing through a machine prepared for the purpose ; the operation closes the fibres of the paper, giving great lustre, depth, and darkness to the picture. Special care must be taken with card mounts, as many contain traces of chemical matter, which will in time affect the prints.

Prints made on blue paper require longer exposure than those made on silvered paper. Print until the image is quite yellow, then throw the print into running water, and leave it to wash until the image is clear and blue, then dry in the blotting pads. No toning is necessary.

Tourists do not require the special arrangement of a dark room for developing, etc. ; any dark closet will do by day, and any hotel room away from light will do by night. If camping out, go away from the camp fire into the darkness of the woods, and there perform all operations belonging properly to the dark room. A pitcher or bottle of water, or the running stream, will furnish all water necessary.

As landscapes are always seen with disadvantage under a noonday sun, so photographs taken under similar circumstances are mostly unpleasing ; and as photography tends to exaggerated contrasts of light and shade, the result is all the worse. Many experienced landscape photographers therefore avoid bright days, and select those times when the sky is covered with white clouds, through which the sun's rays occasionally break.

In viewing a landscape in nature, the eye seizes and rests upon characteristic features, overlooking those that are secondary. A lens cannot do this, and, singularly enough, the eye will not do that with a picture which it will with real objects, but insists, as it were, that the picture should represent them as they should be. This fact is so conspicuously true, that examples are scarcely necessary. They will, however, continually present themselves to the photographer. Perhaps the view lies in a wild valley in the midst of hills, and the scene is not marred by the presence of a rustic cottage. But perhaps beside it are lines hanging full of clothes, drying. This the eye passes over, and excuses in the scene itself ; but the same feature introduced into any picture, photographic or otherwise, provokes inextinguishable laughter.

As the camera has not the painter's power of excluding or subduing intrusive objects, all the photographer can do it to endeavor so to select his point of view as to avoid them. This is a matter demanding the utmost pains and care, for after the view has been taken, it will sometimes be found that a change of position of even a few yards only would have made a material improvement, a discovery mortifying and annoying, and better avoided by a careful search beforehand.

Cast shadows are such as retain more or less of the objects that cast them, as distinguished from the more indefinite shadows which come from some less distinct source. Such shadows are often the source of exquisite beauty in landscapes. A level foreground of grass is apt to be flat and unmeaning ; the shadow of a tree cast across it gives it at once life, character, relief.

A fine single tree or grove of trees lighted from the side affords a beautiful play of light and shade which disappears when the sun is in the line of view behind, or even approaches that direction.

An agreeable division of the foreground is a capital point in a landscape. It has been already remarked how much this is aided by shadows. Almost any characteristic and prominent object will have a good effect, logs, stones, and still more, rocks, bushes ; anything that breaks the level and changes the lines also attracts and pleases the eye—not in itself, but in the general character that it imparts. It may generally be affirmed that scarcely anything can so much detract from the effect of a landscape as an unbroken foreground, level in form and uniform in light. Such a foreground will mar, if not destroy, the effect of the finest objects. The artistic photographer will always change his position to avoid such a foreground, or if he is tied down to a particular spot from some imperative cause, he will if possible have some object, such as a log, a large stone or a trunk of a tree, thrown where it will support his lines.

There is a great beauty in very trifling objects which many habitually overlook. Brushes and vines, rocks, stones, logs, often have elements of attraction that reveal themselves only by observation and cultivation. An artificial arrangement of such objects in the foreground of a photograph lends to it an inexpressible charm.

The distance should never find its place exactly in the middle of the picture, which by its disposition becomes divided, as it were, into two equal parts, to the complete destruction of its artistic character. In fact, no important object should be placed exactly in the centre of the picture, nor should any important object be placed exactly upon the middle line which divides a picture from top to bottom or from side to side. Its effect will be always better if it is distinctly removed from either of these lines.

A blank white sky disfigures a photograph and must be avoided if possible. Several alternatives present themselves, one or other of which should be adopted whenever possible. If large slow-moving clouds are present they may sometimes be caught, especially if the illumination of the landscape be good. But it is an excellent plan to cover as much as possible the sky with foliage or other objects ; large trees in the foreground will aid this. Some landscape photographers who know the value of even a little shading to the sky, adopt regularly the following plan : When the printing is done they open one half of the back of the printing frame and bend the sky end of the print in a curve backwards and so hold it to the light ; it thus becomes somewhat darkened, and by doing this skilfully the shading is regular.

MODELLING IN CLAY.

AN INTRODUCTION TO THE ART OF CARVING IN WOOD.

CONCLUSION.

THIS process of building-up should be carried on until the outside wall, which represents the surface of the board from which the design is to be carved, is as high as it is designed to make the bottom of the panel deep. When a leaf or a stem is raised to a proper height, smooth it up, giving it vertical sides and a flat top, as if it were intended to have it in this condition. The finish, indeed, should be as carefully imparted as if it were intended to leave it thus.

The beginner must go on with his work of blocking out and building up stems, branches, and leaves, until each portion has reached about the level which it is expected to have when finished. This general level of the surrounding border or framing of the pattern, and the design which is enclosed by it, represents the level or surface of the piece of wood from which the carving is to be made. With regard to the square edges which appear in every part of the design when it has been blocked out and built up, if the learner attempt to make them clean and sharp, an annoying difficulty will be met with in the "burr" which arises when the tool is moved along the edge of a stem or leaf. If this is removed by carrying the tool along the side, the burr makes its appearance at the top.

This results from making the strokes in a direction parallel to, or outward from, the edge of the clay. By making the strokes as shown in Fig. 13 this tendency to form a burr is entirely overcome ; and as the tool cuts against a mass of clay, and inwards away from the edge, the cut is smooth, and the edge is left clean and sharp. Any attempt to get rid of the burr by bringing the tool over and along the side or top, as the case may be, will not result in the desired end, but only bring about a transference of the burr from side to top or from top to side, as it may happen. The only way in which a clear, sharp edge can be obtained is to move the tool diagonally along side or top in the direction shown by the arrows in a series of strokes.

The readers of these papers will be interested to know that the pattern which has been brought under their notice in this and the preceding paper was the first one given to a novice in the art ; and as his work progressed, time was taken at each step to make the drawings directly from the model. When a difficulty was met with, a note was made, and a sketch also when necessary, to show how it could be avoided. It was for the purpose of making the process of building up, as well as taking down, perfectly familiar that this particular mode of producing the pattern was selected. It will be seen on an examination of Fig. 14, that it would have been as easy to have taken a sheet of clay, and pressed it down upon the slab, and then, by laying pieces of wood of the proper thickness upon or along each side, to have brought the whole mass to the required thickness by sweeping a straight-edge across the space, reducing the surface to one level throughout. On a sheet thus obtained the pattern might be traced with a point, and relief obtained by carving away the clay to the proper depth. For the beginner this only gives half of the lesson, omitting a very important part for the woodworker, who gets ample practice in the cutting away part of the art, but very little indeed in the building up.

The pattern is now in a state not very unlike that in

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* The toning bath recommended by Anthony is made up of—

Water............	5 ounces.
Solution A........	1 ounce.
Solution B........	1 ounce
Solution C.........	1 ounce.
Solution D........	½ ounce.

Add solution A just before you wish to use the toning bath. Test with blue litmus paper. If the paper turns red, add solution B until it returns to its blue color. Warm the toning bath until it feels slightly tepid.

Solution A is composed of water, 7½ ounces ; chloride of gold, 15 grains.

Solution B is composed of water, 8 ounces; bicarbonate of soda, 1 ounce.

Solution C is composed of water, 8 ounces ; acetate of soda, 400 grains.

Solution D is composed of water, 4 ounces ; chloride of sodium, 160 grains,